



Farid Abed-Meraim

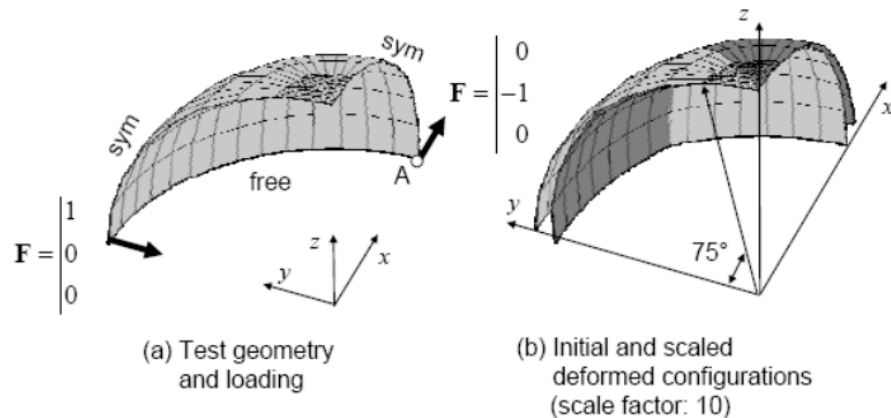


Fig. 4. Pinched hemispherical shell problem with a mixture of prismatic and hexahedral elements: the SHB6 elements are located at the top, and the SHB8PS elements are arranged over an angle of 75°

From: Vuong-Dieu Trinh, Farid Abed-Meraim and Alain Combescure, "A new prismatic solid-shell element 'SHB6': Assumed-strain formulation and evaluation on benchmark problems", Vietnam Journal of Mechanics (VAST), Vol. 31, No. 4, pp 279-292, 2009

See:

<https://scholar.google.fr/citations?user=LQ0e5WkAAAAJ&hl=en>

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Selected Publications:

Abed-Meraim, F., Combescure, A. (2001) SHB8PS a new intelligent assumed strain continuum mechanics shell element for impact analysis on a rotating body. First MIT conference on computational fluid and solid mechanics, Cambridge, USA

Abed-Meraim F., Combescure A., "SHB8PS-a new adaptative, assumed-strain continuum mechanics shell element for impact analysis", *Comput. Struct.*, 80 (9–10) (2002), pp. 791-803

Abed-Meraim, F. and Nguyen, Q.S. (2007), "A quasi-static stability analysis for Biot's equation and standard dissipative systems", *Eur. J. Mech. - A/Solids*, 26, 383-393.

Haddag B., Balan T., Abed-Meraim F.: Investigation of advanced strain-path dependent material models for sheet metal forming simulations. *Int. J. Plast.* 23, 951–979 (2007)

Farid Abed-Meraim and Alain Combescure, "A physically stabilized and locking-free formulation of the (SHB8PS) solid-shell element", *Revue Européenne des éléments finis*, December 2007

Farid Abed-Meraim and Alain Combescure, "Locking-free formulation for the stabilized enhanced strain solid-shell element (SHB8PS): Geometrically non-linear applications", *Proceedings of the 6th International Conference on Computation of Shell and Spatial Structures, IASS-IACM 2008: "Spanning Nano to Mega"*, 28-31 May 2008, Cornell University, Ithaca, NY, USA, John F. Abel and J. Robert Cooke (Editors)

Farid Abed-Meraim, "Contributions to the prediction of structural and material instabilities: Criteria modeling and finite element formulation for thin structures", PhD dissertation, Université Paul Verlaine de Metz and Arts et Métiers ParisTech, France

Vuong-Dieu Trinh, Farid Abed-Meraim and Alain Combescure, "A new prismatic solid-shell element 'SHB6': Assumed-strain formulation and evaluation on benchmark problems", Vietnam Journal of Mechanics (VAST), Vol. 31, No. 4, pp 279-292, 2009

Abed-Meraim F., Combescure A., "An improved assumed strain solid-shell element formulation with physical stabilization for geometric non-linear applications and elastic-plastic stability analysis", Comput. Methods Appl. Mech. Engrg., 80 (13) (2009), pp. 1640-1686

Haddag B., Abed-Meraim F., Balan T.: Strain localization analysis using a large deformation anisotropic elastic-plastic model coupled with damage. Int. J. Plast. 25, 1970-1996 (2009)

Abed-Meraim, F. and Combescure, A. (2011), "New prismatic solid-shell element: assumed strain formulation and hourglass mode analysis", Struct. Eng. Mech., 37, 253-256.

Leahu-Aluas I., Abed-Meraim F.: A proposed set of popular limit-point buckling benchmark problems. Struct. Eng. Mech. 38 (6), 767-802 (2011)

Marc Killpack and Farid Abed-Meraim, "Limit-point buckling analyses using solid, shell and solid-shell elements", Journal of Mechanical Science and Technology, Vol. 25, No. 5, pp 1105-1117, May 2011

Trinh VD, Abed-Meraim F, Combescure A (2011) A new assumed strain solid-shell formulation "SHB6" for the six-node prismatic finite element. J Mech Sci Technol 25:2345-2364

Farid Abed-Meraim, Vuong-Dieu Trinh and Alain Combescure, "Assumed-strain solid-shell formulation for the six-node finite element SHB6: evaluation on nonlinear benchmark problems", 4th International Congress Design and Modeling of Mechanical Systems (CMSM 2011), May 2011

Lotfi Zoher Mansouri, Hocine Chalal, Farid Abed-Meraim and Tudor Balan, "Plastic instability based on bifurcation analysis: Effect of hardening and Gurson damage parameters on strain localization", Key Engineering Materials, February 2012

A. Salahouelhadj, F. Abed-Meraim, H. Chalal, and T. Balan, "Application of the continuum shell finite element SHB8PS to sheet forming simulation using an extended large strain anisotropic elastic-plastic formulation", Archive of Applied Mechanics, Vol. 82, No. 9, pp 1269-1290, September 2012

F. Abed-Meraim, V.D. Trinh, and A. Combescure, New quadratic solid-shell elements and their evaluation on linear benchmark problems, Computing, vol. 95, pp. 373-394, 2013.

Tales Carvalho-Resende, Tudor Balan, Salima Bouvier, Farid Abed-Meraim and Simon-Serge Sablin, "Numerical investigation and experimental validation of a plasticity model for sheet steel forming", Modelling and Simulation in Materials Science and Engineering, Vol. 21, 015008, 2013

F. Abed-Meraim, R.H.J. Peerlings and M.G.D. Geers, "Bifurcation analysis versus maximum force criteria in formability limit assessment of stretched metal sheets", International Journal of Applied Mechanics, Vol. 6, No. 6, 1450064, 2014

F. Kpeky, H. Boudaoud, H. Chalal, F. Abed-Meraim and E.M. Daya, "Dynamic response of viscoelastic multilayered structures using solid-shell finite elements", XVIIIth symposium on Vibrations, Shocks and Noise, June 2014

F. Kpeky, H. Boudaoud, H. Chalal, F. Abed-Meraim and E.M. Daya, "Vibration modeling of sandwich structures using solid-shell finite elements", 11th World Congress on Computational Mechanics (WCCM XI), 5th European Conference on Computational Mechanics (ECCM V), 6th European Conference on Computational Fluid Dynamics (ECFD VI), July 2014

Ben Bettaieb, M., Abed-Meraim, F., "Investigation of localized necking in substrate-supported metal layers: comparison of bifurcation and imperfection analyses", International Journal of Plasticity (2014) (in press)

F. Kpeky, H. Boudaoud, F. Abed-Meraim, and E.-M. Daya, Modeling of viscoelastic sandwich beams using solid-shell finite elements, Compos. Struct., vol. 133, pp. 105-116, 2015.

Peng Wang, Hocine Chalal and Farid Abed-Meraim, "Efficient solid-shell finite elements for quasi-static and dynamic analyses and their application to sheet metal forming simulation", *Key Engineering Materials*, Vols 651-653, pp 344-349, 2015

Peng Wang, Hocine Chalal and Farid Abed-Meraim, "Simulation of nonlinear benchmarks and sheet metal forming processes using linear and quadratic solid-shell elements combined with advanced anisotropic behavior models", *MATEC Web of Conferences*, Vol. 80, 07001, 2016 (NUMIFORM 2016)

Mohamed Ben Bettaieb and Farid Abed-Meraim, "Localized necking in elastomer-supported metal layers: Impact of kinematic hardening", *ASME Journal of Manufacturing Science and Engineering*, 2016 (in press)

Peng Wang, Hocine Chalal and Farid Abed-Meraim, "Linear and quadratic solid-shell elements for quasi-static and dynamic simulations of thin 3D structures: Application to a deep drawing process", *Journal of Mechanical Engineering*, Vol 63, No. 1, pp 25-34, 2017

Peng Wang, Hocine Chalal and Farid Abed-Meraim, "Quadratic solid-shell elements for nonlinear structural analysis and sheet metal forming simulation", *Computational Mechanics*, Vol. 59, No. 1, pp 161-186, January 2017

Fessal Kpeky, Farid Abed-Meraim and El Mostafa Daya, "New linear and quadratic prismatic piezoelectric solid-shell finite elements", *Applied Mathematics and Computation*, April 18, 2017 (in press),

Fessel Kpeky, Farid Abed-Meraim, El Mostafa Daya and Ouro-Djobo Samah, "Modeling of hybrid vibration control for multilayer structures using solid-shell finite elements", *Mechanics of Advanced Materials and Structures*, Vol ?, No. ?, 2017 (in press)

Peng Wang, Hocine Chalal and Farid Abed-Meraim, "Quadratic prismatic and hexahedral solid-shell elements for geometric nonlinear analysis of laminated composite structures", *Composite Structures*, Vol. 172, pp 282-296, July 2017

Mohamed Ben Bettaieb, Holanyo Koffi Akpama and Farid Abed-Meraim, "Prediction of plastic instability in sheet metals during forming processes using the loss of ellipticity approach", *Latin American Journal of Solids and Structures*, Vol. 14, No. 10, pp 1816-1836, 2017

Mohamed Ben Bettaieb, Farid Abed-Meraim, Xavier Lemoine. "Numerical investigation of the combined effects of curvature and normal stress on sheet metal formability", *International Journal of Material Forming*, Springer Verlag, November 2017 (in press)

Fessal Kpeky, Farid Abed-Meraim, Hakim Boudaoud and El Mostafa Daya, "Linear and quadratic solid-shell finite elements SHB8PSE and SHB20E for the modeling of piezoelectric sandwich structures", *Mechanics of Advanced Materials and Structures*, Vol. 25, No. 7, pp 559-578, 2018

Hocine Chalal and Farid Abed-Meraim, "Quadratic solid-shell finite elements for geometrically nonlinear analysis of functionally graded material plates", *Materials*, Vol. 11, 1046, 2018